

405 KAR 5:002. Definitions for 405 KAR Chapter 5.

RELATES TO: KRS 350.010(2), 350.240, 350.300

STATUTORY AUTHORITY: KRS 350.028, 350.029, 350.240, 350.300

NECESSITY, FUNCTION, AND CONFORMITY: KRS 350.028 authorizes the Environmental and Public Protection Cabinet to promulgate administrative regulations pertaining to noncoal mineral operations to minimize their adverse effects on the citizens and the environment of the commonwealth. KRS 350.029 authorizes the cabinet to promulgate reasonable administrative regulations to establish effective programs for the control of surface soil disturbance in connection with mining as defined by the Interstate Mining Compact. KRS 350.240 authorizes the cabinet to promulgate reasonable administrative regulations for the reclamation of land disturbed or removed in the mining of clay. KRS 350.300 authorizes the cabinet to formulate and establish an effective program and standards for the conservation and use of mined land. This administrative regulation establishes definitions of certain essential terms used in 405 KAR Chapter 5.

Section 1. Definitions. (1) "Access road" means a road designed and constructed to gain access from a public road to the mineral operation.

(2) "Acid drainage" means water with a pH of less than six (6.0) and in which total acidity exceeds total alkalinity, discharge from an active, inactive or abandoned mine or from an area affected by a mineral operation.

(3) "Acid-forming materials" means earth materials or rock that contain sulfide minerals or other minerals which, if exposed to air, water or weathering processes, form acids that may create acid drainage.

(4) "Affected area" means any land area which is used to facilitate, or is physically altered by strip mining; surface disturbance from an underground mine; surface disturbance from dredging operations; any area covered by dams, ventilation shafts, entryways, refuse banks, dumps, stockpiles, overburden piles, holes or depressions, repair areas, roads, storage areas, shipping areas and processing plants.

(5) "Backfill" means excavated overburden material used to regrade a mined area.

(6) "Cabinet" is defined in KRS 350.010(10).

(7) "Check dam" means a small structure placed in ditches, usually constructed of rock, intended to reduce runoff velocity for deterring erosion.

(8) "Clay" means a natural substance or soft rock which, when finely ground and mixed with water, forms a pasty, moldable mass that preserves its shape when air dried; the particles soften and coalesce upon being highly heated and form a stony mass upon cooling.

(9) "Compaction" means the reduction of pore spaces among the particles of soil or rock generally as a result of running heavy equipment over the materials.

(10) "Cropland" means land used for the production of adapted crops for harvest alone or in rotation with grasses or legumes, and includes: row crops, small grain crops, hay crops, nursery crops, orchard crops and other similar specialty crops. Land used for facilities in support of cropland farming operations which is adjacent to, or an integral part of, these operations is also included for purposes of this land use category.

(11) "Department" means the Kentucky Department for Natural Resources.

(12) "Disturbed area" means an area where vegetation, topsoil, or overburden is removed or upon which topsoil, spoil, mineral processing waste, underground development waste or similar waste is placed by mining activities. The disturbed area also includes those areas in which diversion ditches, sedimentation ponds, roads, or other features related to a mineral operation, are installed. Those areas are classified as "disturbed" until reclamation is complete,

bond monies or permit have been released and processing plant and stockpile areas have been moved.

(13) "Diversion ditch" means a channel constructed to direct water from one location to another.

(14) "Division" means the Division of Field Services of the Kentucky Department for Natural Resources.

(15) "Dolomite" means a sedimentary rock composed primarily of the crystalline carbonate mineral dolomite, $\text{CaMg}(\text{CO}_3)_2$. Many limestones contain small amounts of dolomite; however, the term dolomite is reserved for rocks which contain fifteen (15) percent or more magnesium carbonate.

(16) "Dredging operation" means surface disturbance of dredging river or creek sand and gravel.

(17) "Edge effect" means the phenomena by which wildlife is enhanced and wildlife diversity is typically increased as a result of two (2) or more different habitat types occurring in close proximity to each other. Where two (2) habitats meet is referred to as an "edge".

(18) "Embankment" means an artificial deposit of material that is raised above the natural surface of land and used to contain, divert, or store water, support roads or railways, or other similar purposes.

(19) "Ephemeral stream" means a stream which only flows in direct response to precipitation in the immediate watershed, or in response to the melting of a cover of snow and ice, and which has a channel bottom that is always above the local water table.

(20) "Erosion" means the detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

(21) "Fish and wildlife land use" means an area which is characterized by an intermixed combination of habitat types including: woodlots or forested areas, shrub scrub areas, grass legume or open areas, and wetland or open water areas arranged in a manner as to promote edge effect for wildlife.

(22) "Floodplain" means the area along, adjacent to and including, a stream which is inundated by a 100 year frequency flood.

(23) "Fluorspar" means an ore of the mineral Fluorite CaF_2 . This occurs in veins and as bedding replacements found in Western Kentucky, as part of a mining district referred to as the Cave-In-Rock District and in Central Kentucky, as the Central Kentucky Vein and Fault System. Its origin is the result of hydrothermal activity.

(24) "Forest land" means lands dominated by canopy forming trees, or from a postmining land use standpoint, areas planted throughout with trees.

(25) "General permit" means any KPDES permit authorizing a category of discharges under KRS Chapter 224 within a geographical area, issued under 401 KAR 5:055.

(26) "Gravel" means a sedimentary rock type that implies a loosely, compacted, coarse sediment that is generally larger than 4mm, but smaller than boulders; a naturally occurring aggregate.

(27) "Ground cover" means the area of ground covered by the combined aerial parts of live vegetation and the litter produced and distributed naturally and seasonally on site, expressed as a percentage of the total area of measurement.

(28) "Ground water" means water which is in the zone of saturation or any subterranean waters flowing in well defined channels and having a demonstrable hydrologic connection with the surface. It is differentiated from water held in the soil, from water in downward motion under the force of gravity in the unsaturated zone, and from water held in chemical or electrostatic bondage.

(29) "Growing season" means the period during a one (1) year cycle, from the last killing

frost in spring to the first killing frost in fall, in which climatic conditions are favorable for plant growth. In Kentucky, this period normally extends from mid-April to mid-October.

(30) "Highwall" means the face of exposed overburden and mineral to be mined, in an open cut of a strip mine or for entry to an underground mine.

(31) "Hollowfill" means a fill structure placed in a hollow where the side slopes of the existing hollow, measured at the steepest point, are greater than twenty (20) degrees or the average slope of the profile of the hollow, from the toe of the fill to the top of the fill, is greater than ten (10) degrees.

(32) "Imminent danger to the health and safety of the public" means the existence of any condition, or practice, or any violation of a permit or other requirement of KRS Chapters 350 through 353 or 405 KAR Chapters 1 through 30; which condition, practice, or violation could reasonably be expected to cause substantial, physical harm to persons outside the permit area before the condition, practice, or violation can be abated. A reasonable expectation of death or serious injury before abatement exists if a rational person, subjected to the same condition or practice giving rise to the peril, would not expose himself to the danger during the time necessary for the abatement.

(33) "Impoundment" means a closed basin formed naturally or artificially built, which is dammed or excavated for the retention of water, sediment, or waste.

(34) "Industrial/commercial land use" means lands used for:

(a) The extraction or transformation of materials, for fabrication of products, wholesaling of products or for long term storage of products; and heavy and light manufacturing facilities. Land used for facilities in support of these operations, which is adjacent to, or an integral part of, that operation is also included; or

(b) The retail or trade of goods or services, including: hotels, motels, stores, restaurants, and other commercial establishments. Land used for facilities in support of these operations, which is adjacent to, or an integral part of, that operation is also included.

(35) "Intermittent stream" means:

(a) A stream, or reach of stream, that drains a watershed of one (1) square mile or more but does not flow continuously throughout the calendar year; or

(b) A stream, or reach of stream, that is below the local water table for at least some part of the year, and obtains its flow from both surface water and ground water discharge. This term does not include ephemeral streams.

(36) "Land use" means the specific functions, uses, or management related activities of the proposed permit area, including both premining use and postmining use.

(37) "Limestone" means a crystalline sedimentary rock that is primarily composed of the mineral calcite CaCO_3 . However, it may be considered as any sedimentary rock composed essentially of carbonates, chiefly calcite or dolomite, but may contain small amounts of iron-carbonates (siderite).

(38) "Mast" means nuts, acorns, and fruit produced by certain woody plant species.

(39) "Mineral operation" means noncoal mining activities including: mining of limestone and dolomite; mining of sand and gravel; surface disturbance of dredging of river or creek sand and gravel; mining of clay; mining of tar sand or rock asphalt; mining of fluorspar and other vein minerals. Mineral operations include the surface disturbance of underground mining as well as strip mining. This term includes mining activities and all activities necessary and incident to the reclamation of the mine or dredging operation as required by this title. This term does not include coal mining or oil shale mining.

(40) "Mineral operator" means any person, partnership, or corporation engaged in mineral operations.

(41) "Mineral permittee" means a mineral operator or person holding a permit, or required

under KRS Chapter 350 or 405 KAR Chapter 5, to hold a permit to conduct mineral operations during the permit term and until all reclamation obligations imposed by KRS Chapter 350 and 405 KAR Chapter 5 are satisfied.

(42) "Natural drainways" means ephemeral areas, gullies, ravines, streams, and similar topographical features occurring naturally in an area which control the direction of surface water flow.

(43) "Natural hazard lands" means geographic areas in which natural conditions exist that pose or, as a result of mineral operations, may pose a threat to the health, safety, or welfare of people, property, or the environment, including, but not limited to, areas subject to landslides, cave-ins, subsidence, substantial erosion, unstable geology, or frequent flooding.

(44) "Noxious plants" means species that have been included on state and federal lists of noxious plants.

(45) "Outslope" means the face of the spoil, natural ground, or embankment sloping downward from the highest elevation to the lowest elevation.

(46) "Outstanding resource waters" means surface waters designated by the cabinet, pursuant to 401 KAR 5:031, Section 7.

(47) "Pastureland" means land used primarily for the long term production of adapted, domesticated, forage plants to be grazed by livestock or occasionally cut and cured for livestock feed. Land used for facilities in support of pastureland which is adjacent to, or an integral part of, these operations is also included.

(48) "Perennial stream" means a stream, or stream reach, that flows continuously during all of the calendar year as a result of ground water discharge or surface runoff.

(49) "Permanent impoundment" means an impounded body of water, that is formed in the pit during mining or retained by a constructed embankment or dugout, which will be retained after mineral operations are complete and which has been approved for retention by the cabinet and other appropriate Kentucky and federal agencies.

(50) "Permit" means written approval issued by the cabinet to conduct mineral operations.

(51) "Permit area" means the area of land and water within boundaries designated in the approved permit application, which shall include, at a minimum, all areas which are or will be affected by mineral operations under that permit.

(52) "pH" means the index used to describe the hydrogen ion activity of a system defined as the reciprocal of the logarithm of the hydrogen ion concentration at base ten (10). The range of this index is zero to fourteen (14), with seven (7) being neutral.

(53) "PLS" means pure live seed.

(54) "Point source" is defined in 401 KAR 5:050.

(55) "Recreation land use" means land used for public or private leisure time use, including developed recreation facilities such as, parks, camps, and amusement areas, as well as areas for less intensive uses such as, hiking, canoeing, and other undeveloped recreational uses.

(56) "Residential land use" means tracts employed for single and multifamily housing, mobile home parks, and other residential lodgings. Also included, is land used for support facilities such as, vehicle parking, open space, and other facilities which directly relate to the residential use of the land.

(57) "Roads" means haul roads and access roads constructed, used, reconstructed, improved or maintained for use in mining and stockpiling finished products, within permit boundaries. The term excludes any roadways located in the mining pit area.

(58) "Runoff" means precipitation that flows overland before entering a defined stream channel and becoming stream flow.

(59) "Safety factor" means the ratio of the available shear strength to the developed shear stress, or the ratio of the sum of the resisting forces to the sum of the loading or driving forces,

as determined by engineering practices.

(60) "Sand" means a sedimentary rock type that implies a loosely, compacted, fine sediment that is generally composed of particles that range in size from 1/16mm to 2mm. Most sands are predominantly composed of quartz grains or fragments of siliceous rocks.

(61) "Sediment" means undissolved organic and inorganic material transported or deposited by water.

(62) "Sedimentation pond" means any natural or artificial structure or depression used to remove sediment from water and store sediment or other debris.

(63) "Significant, imminent environmental harm to land, air, or water resources" means a situation which is determined as follows:

(a) An environmental harm is an adverse impact on land, air, or water resources, including, but not limited to, plant and animal life.

(b) An environmental harm is imminent if a condition, practice, or violation exists which:

1. Is causing the harm; or

2. May be reasonably expected to cause the harm at any time before the end of the reasonable abatement time.

(c) An environmental harm is significant, if that harm is appreciable, and not immediately reparable.

(64) "Slope" means average inclination of a surface, measured from the horizontal, generally expressed as the ratio of a unit of vertical distance to a given number of units of horizontal distance. It may also be expressed as a percent or in degrees.

(65) "Soil horizons" means contrasting layers of soil parallel, or nearly parallel to, the land surface. Soil horizons are differentiated on the basis of field characteristics and laboratory data. The four (4) master soil horizons are:

(a) "A horizon". The uppermost mineral layer, often called the surface soil. It is the part of the soil in which organic matter is then most abundant, and leaching of soluble or suspended particles is typically the greatest.

(b) "E horizon". The layer commonly near the surface below the A horizon and above the B horizon. The E horizon is most commonly differentiated from the overlying A horizon by a lighter color and generally measurably less organic matter. The E horizon is most commonly differentiated from the B horizon in the same sequence by color of higher value or lower chroma, by coarser texture or by a combination of these properties.

(c) "B horizon". The layer that is immediately below the E horizon and often called the subsoil. This middle layer commonly contains more clay, iron, or aluminum than the A, E, or C horizons.

(d) "C horizon". The deepest layer of soil profile. It consists of loose material or weathered rock that is relatively unaffected by biological activity.

(66) "Spoil" means overburden which has been removed during mineral operations.

(67) "Stabilize" means any method used to prevent movement of soil, spoil piles, or areas of disturbed earth, and includes increasing bearing capacity, increasing shear strength, draining, compacting, riprapping, or by vegetation.

(68) "Stream buffer zone" means an area of forest or field left untouched and undisturbed by the mineral operator during mining, including haul road construction.

(69) "Strip mining" is defined in KRS 350.010(2).

(70) "Surface disturbance of dredging river or creek sand and gravel" means the surface and land disturbed on the banks of a creek or river for haul roads, storage areas, processing areas, maintenance and repair areas, or any other disturbance to the banks and land created by the dredging of sand and gravel out of rivers or creeks.

(71) "Surface disturbance of underground mining" means above ground activities incidental

to subsurface mineral extraction or in situ processing, including construction, use, maintenance, and reclamation of roads; above-ground repair areas, storage areas, processing areas, and shipping areas; areas upon which are sited support facilities including, hoist and ventilating ducts, areas used for the disposal and storage of waste, and areas on which materials incidental to underground mining activities are placed.

(72) "Surface waters" means those waters having well defined banks and beds, either constantly or intermittently flowing; lakes and impounded waters; and marshes and wetlands. Effluent ditches and lagoons used for waste treatment which are situated on property owned, leased, or under valid easement by a permitted discharger, are not considered to be surface waters of the commonwealth.

(73) "Suspended solids" means organic or inorganic materials carried or held in suspension in water that will remain on a 0.45 micron filter.

(74) "Tar sand or rock asphalt" means a porous, consolidated or unconsolidated sand or sandstone whose interstices contain asphalt or bitumen.

(75) "Temporary mineral operation" means a mineral operation that operates for a total of six (6) months or less at a location.

(76) "Topsoil" means the A and E horizon layers of the four (4) master soil horizons.

(77) "Toxic forming materials" means earth materials or wastes which, if acted upon by air, water, weathering, or microbiological processes, are likely to produce chemical or physical conditions in soils or water that are detrimental to biota or uses of water.

(78) "Waste" means materials which are washed, (otherwise separated or left from a mineral product) slurried or otherwise transported from the processing facilities or preparation plants of any kind.

(79) "Water table" means the upper surface of a zone of saturation, where the body of ground water is not confined by an overlying impermeable zone.

(80) "Water withdrawal permit" means the written approval issued by the cabinet involving the actual removal or taking of water from any stream, water course, or other body of public water pursuant to KRS 151.140.

(81) "Wetland" means land that has a predominance of hydric soils and that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

(a) "Hydric soil" means soil that, in its undrained condition, is saturated, flooded, or ponded long enough during the growing season to develop an anaerobic condition (without oxygen) that supports the growth and regeneration of hydrophytic vegetation.

(b) "Hydrophytic vegetation" means a plant growing in:

1. Water; or

2. A substance that is at least periodically deficient in oxygen during a growing season as a result of excessive water content.

(82) "Wild river" means a water which has been designated as a wild river by the General Assembly pursuant to KRS 146.241. (30 Ky.R. 2421; eff. 8-26-2004.)